Teaching Idioms through Pictorial Elucidation[1]

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Cognitive semantic studies have shown that the dual coding of input (both verbal and visual) promotes the formation of memory traces and, the retention of information. These findings have prompted the use of mental imagery in language teaching, where pictorial elucidation has been found to improve comprehension. There are, however, some grounds for caution when it comes to the application of image-based pedagogy. Experimental research that has examined the effects of pictorial elucidation on idiom learning suggests that pictures are likely to facilitate comprehension, but may interfere with the retention of form of multiword units. The present study examined possible ways of integrating images and verbal descriptions so that both the comprehension and the production of idiomatic language are facilitated. The experiment compared the recall of meaning and form of the target idioms when pictures were provided by the teacher and when the learners had to draw their own images after reading verbal explanations. The results of the study will be discussed in light of the dual coding theory and the cognitive styles of the learners.

Key words: idiom teaching, learning styles, dual-coding theory

INTRODUCTION

In recent years, vocabulary has been given a greater prominence in EFL materials.

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A better understanding of what word knowledge entails and how memory processes can be facilitated has had a significant influence on the ways in which vocabulary is selected, organized and presented to the learners. Figurative language, however, seems to have received less attention than it might deserve. A case in point is the treatment of idiomatic expressions. As Irujo (1986) points out, many second-language teaching materials either ignore idioms entirely or do no more than list them as 'other expressions', without providing any opportunities for learners to practice. A similar observation has been made by Lennon (1998) who notes that idiomatic language has been considered something of peripheral importance that could be approached in a "take-it-or-leave-it sort of fashion", with books of idioms published as an optional supplementary material to grammars and dictionaries.

Idioms, however, form an intrinsic part of the native speaker's lexicon. The English language is rich in idiomatic expressions and many of them are used with high frequency. This means that there is a strong need to look for approaches that will minimize learners' burden and increase the probability that the idiomatic expressions they encounter are understood and remembered.

Supporters of incidental vocabulary learning (Nagy, Herman, & Anderson, 1985; Nation, 1990) argue that words can and should be acquired primarily through exposure to meaningful input. They stress that vocabulary of native speakers is simply too vast to be accounted for by explicit instruction. More recent studies (Laufer, 2003; 2005a; 2005b), however, suggest that while learning from context may be the main source of vocabulary knowledge for native speakers, it should not be taken for granted that learners will notice unfamiliar words in the input, be able to infer their meaning correctly and memorize them. This means that explicit instruction of the target vocabulary might be necessary in second language contexts. Studies that compared vocabulary learning from communicative activities with those that focused on words as isolated items (Laufer, 2006; Laufer & Girsai, 2008) showed that word-focused treatment leads to better vocabulary retention. Learners have a limited capacity for simultaneous processing of L2 meaning and form (van Patten, 1990) and in communicative tasks, where the focus is typically on conveying the meaning, it is easy to understand how linguistic structures in the

input may go unnoticed.

The studies above examined the acquisition of individual lexical items, but the findings have clear implications for the teaching of idiomatic language as well. If learners fail to notice and retain individual lexical items in the input, it is unlikely that multi-word phrases will be retained successfully. Incidental acquisition of idiomatic expressions might be particularly difficult for second language learners.

One reason for this is that many idiomatic expressions are semantically opaque, i.e. the meaning of the phrases cannot be inferred from their constituent parts. Second, even when idioms are semantically transparent, learners may not always be familiar with the meaning of the words that make-up the phrases, which makes it impossible for them to infer their figurative meaning (Boers, Piquer-Piriz, Stengers & Eyckmans, 2009). Furthermore, even if learners are familiar with all constituent elements of idiomatic phrases, they may not always notice their figurative usage. Idioms often include high-frequency words, which learners think they know. They pay little attention to them and many idiomatic phrases go unnoticed. With their meta-cognitive strategies not being fully developed, learners often fail to detect their failure to comprehend input. Fourth, even if learners are familiar with the constituent elements of L2 idioms and recognize their figurative usage, they are still likely to access literal meanings of the phrases before the figurative ones, often relying on L1 conceptual systems during the processing of the L2 input ones (Gibbs, 1980, 1986; Kecskes, 2000; Cieślicka, 2006). Finally, difficulties in the comprehension and production of idioms may also result from the incongruence of semantic domains in L1 and L2 (Boers et al., 2009). Conceptual metaphors that underlie a large number of idiomatic phrases reflect the interpretation and segmentation of the reality of the culture where they originated. Native speakers tend to internalize this conceptual framework and related imagery to the extent that they are not even aware of their existence. These metaphors, however, being often culture-specific, are typically non-transparent to foreign language learners. In short, experimental evidence offers little reason to believe that learners will be able to pick up and use idiomatic phrases effectively through sheer exposure to authentic L2 input.

While no one seems to dispute the benefits of explicit instruction with regard to

figurative language, for many years teachers were at a loss as to how to assist their students with the acquisition of idiomatic expressions. The alleged arbitrary semantics of idiomatic language and fixed word order led many instructors to believe that the only way learners can master these expressions is by rote memorization, treating them as single lexical units. (Boers, Eyckmans, & Stengers, 2007).

Recent experimental research, however, has resulted in better understanding of what idiomatic language involves and how it can be approached for teaching purposes. Attempts have been made to develop models of instruction that will take into account both general principles of human cognition as well as the differences in individual learning styles. The sections that follow briefly review the results of these studies.

LEARNING STRATEGIES AND LEARNING STYLES

Research in educational psychology has made clear that while it is possible to identify typical developmental stages and common problems, each learner remains unique in terms of the ways that they acquire and retrieve knowledge. Learning outcomes are influenced by variables such as age, aptitude, motivation, cognitive style, learner's personality and the strategies that he or she may choose to apply.

One factor that has received much attention in the educational research literature over the last 30 years is learning style preferences. A learning style can be defined as "the way an individual learns best, considering a number of relevant factors, such as preferred environment, emotional and social setting, need for structure, cultural influences, preferred sensory modalities, reasoning patterns, and memory factors" (Schulz, 1977: ii). It is a set of relatively fixed cognitive, affective and physiological behaviors that affect how individuals share and make meaning, how they perceive, interact and respond to their learning environments (Keefe, 1979). Four main perceptual learning modalities have been identified: visual learning (reading and studying charts), auditory learning (listening to lectures or audiotapes), kinesthetic learning (total physical involvement with a learning situation) and tactile learning

("hands-on learning", building models or doing laboratory experiments) (Reid, 1987).

While preferences for a particular perceptional modality are mostly innate, some studies suggest that culture and educational experiences may also affect an individual's learning style. Reid (1987), for example, compared the learning styles of ESL students from nine different backgrounds and found that students from different language backgrounds sometimes differ in their learning style preferences. For example, Korean students had much higher preference for visual input than native English speakers or Japanese students. Japanese students were found to be the least auditory of all the groups examined and significantly less kinesthetic than Arabic, Spanish, Korean and Thai students. O'Malley et al. (1985) found that learning styles of different ethnic groups may have a significant impact on the effectiveness of strategy training. In their study, students of Hispanic and Asian origin received training in cognitive and meta-cognitive strategies. While the Hispanic treatment group did better than the control group, the reverse was true for the Asian group. O'Malley attributes these findings to the fact that Asian students were less responsive to strategy training and preferred to rely on familiar tactics such as rote memorization. Similar observations were also made by Politzer and McGroarty (1985) who also note that Oriental students seem to have a preference for traditional, analytic language learning strategies that utilize language rules and memorization.

These findings have strong implications for foreign language instruction. If students differ in the way they acquire information, all-encompassing teaching methods are not likely to be effective in the classroom. Learners' level of engagement with the task and consequently their performance on it will to a large extent depend on their cognitive abilities and various affective and cognitive factors (Robinson, 2007). Strategy training that does not confirm to the learners' cultural background can significantly impede the learning process (Sutter, 1987 cited. in Oxford, 1989). Therefore, in order to promote learning and make foreign language study more accessible, instruction should be personalized and delivered by those techniques that best match learners' aptitudes and preferences.

In mainstream school settings, however, instruction is often uniformed and the

medium of communications tends to be primarily verbal. Students are expected to listen to teachers' lectures, to discuss and read or respond in writing to large amounts of written text (Scruggs & Mastropieri, 1993). Instruction that is limited to verbal input alone, however, may not necessarily be the most effective mode of presentation not only due to the aforementioned perceptual differences in learning styles but also because it fails to take into account the general principles of human cognition. There is a growing body of evidence from the research in cognitive psychology that suggests that simultaneous presentation of verbal and non-verbal input may be more effective than either modality alone. The next section briefly reviews the results of these studies.

DUAL-CODING THEORY AND L2 VOCABULARY TEACHING

Language and linguistic behavior form an intrinsic part of cognition as a whole, and general theories of cognitive processing apply to second language acquisition as well. One theory of particular significance for second language teaching has been dual coding theory.

According to dual coding theory (Paivio, 1971; Clark & Paivio, 1991) verbal and non-verbal information are processed along separate channels and are represented differently in the human mind. Therefore, dual coding of input provides an alternative pathway for its subsequent recall. Information that is presented through both visual and verbal codes will be stored and retrieved more easily than information presented through one modality only.

Verbal and non-verbal representations are connected through a complex associative network, with some nodes highly active and others suppressed at any given time. Clark and Paivio (1991) argue that activation and inhibition of different representations will depend on variables such as pedagogical practices, concreteness of the input and individual differences in imagery abilities.

Instructional methods that can be conceptualized in terms of imaginal processes have been found to facilitate information processing and the acquisition of

knowledge. Using visual illustrations or asking students to generate images for pairs of words has been found to increase the likelihood that the imagery system will be activated and the input remembered (Clark & Paivio, 1991).

Another important determinant of non-verbal processing is the concreteness of the materials being studied. After reviewing the relevant experimental research, Clark and Paivio (1991) maintain that concrete materials are more likely to evoke imagery and are understood faster and remembered better than abstract texts. The benefits observed have been attributed to the specific organizational qualities of the imagery system. While verbal information is typically processed in a serial or sequential manner, non-verbal representations can simultaneously encode separate elements of the input from different sensory modalities (e.g. shapes, sounds, emotions) and unify them in complex images. These compound images permit more detailed representation of the input in human memory and more complete retrieval.

Finally, the degree of activation of the non-verbal system has also been found to depend on the cognitive style of an individual. There are significant differences in terms of ability with which individuals are able to use imagery-based processes. Differences have been observed in imagery vividness (i.e. the clarity of the mental images the individual evokes), image control (i.e. the individual's ability to generate a mental image or to perform operations such as mental rotation) and imagery style (i.e. the frequency with which an individual may choose to engage in visual processing) (Childers, Houston, & Heckler, 1985). While in the case of low-imagers imagery is typically induced through instruction, high-imagers use it spontaneously, and spontaneous use of images was found to facilitate information recall (Denis, 1984). Students who are low-imagers were also found to experience difficulties remembering spatial facts, visualizing geometric shapes and principles, or remembering the spelling of difficult words (Clark & Paivio, 1991).

A number of experimental studies have looked for ways of accommodating the principles of dual coding theory in the teaching of figurative language. Concreteness and imagery have been found to play an important role in the processing of metaphoric sentences (Paivio & Clark, 1986; Katz, Paivio, Marschark, & Clark, 1988). Katz et al. (1988), for example, found a high correlation between

the rated imagery value of metaphors and the ease of their comprehension.

One of the imagery based instructional techniques that has received attention in recent years is pictorial elucidation and its effect on students' ability to comprehend and generate figurative phrases in the L2.

PICTORIAL ELUCIDATION AND THE TEACHING OF FIGURATIVE LANGUAGE

Pictorial elucidation is a process of stimulating an association between a language and an image through the use of schematic drawings or pictures (Boers, Lindstromberg, Littlemore, Stengers, & Eyckmans, 2008). Words are believed to entail both sensory and meaning features and both types of information can be processed and represented in human memory (Craik & Lockhart, 1972). Inclusion of pictorials in the instruction, therefore, is expected to prompt activation of the sensory attributes of the target items and in turn facilitate their retention and recall.

Experimental research in this area has found that the effectiveness of pictorial elucidation depends on a number of factors such as the quality of the image, transparency of the figurative usage, the stage of the instructional process at which images are introduced, cognitive style of the learners and learning objectives (retention of meaning vs. recollection of form).

Boers et al. (2008) report the results of three case studies where pictorials were used to elucidate the literal senses of the target words with the purpose of helping the students interpret and remember their figurative meanings. The variables examined were the stage of the instruction process at which pictorials are presented, the cognitive style of the learners and learning goals (receptive vs. productive knowledge). The time at which pictorials were introduced in the instruction process was found to have an impact on the mnemonic effectiveness of pictorial elucidation. The benefits were found to be the greatest when pictures preceded verbal input and were used to stimulate active cognitive involvement of the learners (i.e. when learners were asked to use pictorial clues to hypothesize about the figurative meaning of the target words) and less prominent when images were presented

together with verbal explanations. The differences, however, were particularly significant with regard to the learning goals and cognitive style of the learners. Overall, the results of these studies suggest that pictorial elucidation could be an effective mnemonic technique for the purpose of retention of word meaning especially for learners who are high imagers (i.e. individuals whose cognitive style shows a predisposition for thinking in mental pictures). Verbal learners were also found to benefit from pictorial support when images accompanied propositionally presented information. Image-based instruction, however, was found to be less effective in facilitating recollection of form, and sometimes even seems to have had a distractive effect on visual learners. Boers and his colleagues speculated that high-imagers tend to focus on images and pay less attention to linguistic form and the lexical composition of multi-word units, which impedes their ability to generate the target expressions.

In order to further test this hypothesis, Boers and his colleagues (Boers et al., 2009) designed another experiment that focused specifically on the effect pictorial elucidation may have on the retention of the form of idioms (i.e. their precise lexical composition) and the possible effect of cognitive-style variables. The meaning of the target idioms was explained through reference to the original, literal meaning of the expressions. In order to provide extra stimulation for dual coding, for half of the target idioms the formation of mental images was facilitated by adding photographs or drawings to verbal explanations. The learners' recollection of the target phrases was measured by a gap-fill test. The data obtained provided little evidence that pictorial support enhances retention of linguistic form. Pictures were even found to have a detrimental effect on recollection of the more difficult words, especially for students who had a predisposition for processing vocabulary through imagery.

The results of the above-described studies call for some caution in providing pictorial support when teaching L2 vocabulary. The present study is an attempt to examine whether student-generated drawings may enhance recollection of linguistic form of idiomatic expressions, and neutralize the distracting effect that teacher supplemented pictorials may have on visual learners.

RESEARCH QUESTIONS AND HYPOTHESES

The study was designed to provide the answers to the following research questions:

1. Do drawings generated by learners promote acquisition of meaning and form of idiomatic expressions more than the pictures provided by the teacher?
2. How may the cognitive-style variables influence the effectiveness of induced and provided imagery on idiom learning?

With regard to the first research question, it was hypothesized that student-generated drawings would promote learning of the target phrases and acquisition of form in particular more than the pictorials provided by the teacher. Drawing strategy requires students to externally represent visual images formed in their minds for the verbal input they are exposed to. In order to generate images for idiomatic phrases, learners have to pay attention to the lexical make-up of the target expressions, which may not be necessary when visual support is provided by the instructor.

The second research question concerns the possible correlation between learners' cognitive styles and the effectiveness of imagery based instruction. Some studies (Clark & Paivio, 1991) suggest that forced imagery may have a negative effect on the performance of verbal learners who often have difficulties generating images. For visual learners, imagery-based instruction may facilitate acquisition of meaning but seems to have a distracting effect on the acquisition of form (Boers et al., 2008). Based on the results of these studies, it was hypothesized that learners who are high-imagers would do better when they create their own images, while learners who show a preference for verbal explanations would have better results when visual support is provided by the teacher.

METHOD AND PROCEDURES

Participants

The experiment involved 53 first-year university students. All participants were native speakers of Japanese. The students were non-English majors and their level of English was intermediate (TOEIC scores between 430 and 545).

Idiom Teaching

The study compared acquisition of L2 idioms under two conditions: (a) pictorial support provided by the instructor and (b) visual representations of verbal input generated by the learners themselves.

Thirty idioms were included in the study, 15 in each condition. An effort was made to ensure that all target expressions consisted of concrete words only, making them easy to visualize. Attention was also paid to ensure that the length of idiomatic phrases was approximately the same in both conditions. Another factor to consider was the difficulty of the constituent words. It was assumed that the words of lower frequency would be less known to the learners and therefore that the phrases containing them would potentially be more difficult to master. Word frequency was established by using Vocabulary Profiler, a free online software that categorizes words based on their corpus frequency. An effort was made to have approximately equal distribution of lexical items from different frequency bands in the two conditions. A complete list of the target idioms is provided in Appendix 1. The study used a combination of imagery and verbal elaboration, with verbal input serving as a foundation for the generation of visual representations. Taking into account the warning of Boers et al. (2009) about the danger that early exposure to pictorials may distract learners from linguistic form, visual clues were introduced after verbal information had been attended to.

The idioms were taught five at a time during six sessions. The sessions lasted for 40 minutes when visual support was provided by the teacher, and 50 minutes when students were asked to generate the drawings. Each session consisted of five stages,

which were as follows:

In both conditions, the students were first presented with a list of target idioms (5 idioms at a time) and asked to write their meaning in English or Japanese, or to leave it blank if they were not familiar with the expression. They were instructed to circle any new words in the idiomatic expression and ask the teacher about their meaning. This was important to ensure that the literal meaning of each lexical item was known to the learners before the discussion shifted to their figurative usage.

At the second step, the learners were asked to read the example sentences that included the target idioms and to then write the idioms next to their corresponding definitions, which were provided in the L2. At this stage, the learners' attention was primarily focused on the meaning, but having them write an idiom next to its definition also ensured that form was also attended to.

After the meaning of the target idioms was confirmed, the students moved onto visual representation of the input. In the condition where the teacher provided the pictures, the illustrations from Collins Cobuild Idioms Workbook (Goodale, 1995) were used. The pictures elucidated the literal senses of the words that the target idioms were composed of. For example, for the idiom '*to hear something through the grapevine',* the following image was provided:

FIGURE 1
A Picture Image for the Idiom to Hear Something through the Grapevine
(Goodale, 1995, p.12)

The students were asked to write the target idioms below the pictures, which was expected to promote the development of connections between visual and verbal

representations. For the learner-generated drawing condition, the students were asked to illustrate the target idioms and then to write the phrases below the corresponding pictures. Drawing condition was unsupported. No background or cut-out shapes were provided and the learners had to generate illustrations with only verbal phrases as a guide.

Stages four and five had the same format for both conditions. At stage four, the students had to complete sentences with a suitable idiom from the list. The purpose of this task was to measure whether they had acquired the meaning of the target idioms (receptive knowledge test). The target idioms were presented in the neutral (dictionary) form (e.g. *'cook the books'; 'stab someone in the back')*, which meant that, in order to complete the sentences correctly, the students had to change verb tense, possessive pronouns, and so on. At stage five, the students also had to complete the sentences with a suitable idiom, but the target idioms were not provided, which meant that the students had to recall both their meaning and the form (productive knowledge test). After the students' responses for stages four and five were collected, they were provided with the model answers and they could ask the teacher any questions they had about the meaning or usage of the target phrases.

In the following week, the learners were given a post-test. In the picture-provided condition, the learners were shown the same illustrations they worked with in the previous week. They were asked to write the target idioms below the picture, and then to match the picture number with the corresponding definition. In this way, their retention of both the form and the meaning of the target expressions could be tested. In the learner-generated drawing condition, the students were shown the copies of illustrations that they had made in the previous week from which the target idioms were blanked out. The learners were asked to write the idioms below the pictures and to match the pictures with the corresponding definitions.

In order to ensure the consistency of scoring, strict grading criteria were followed. The students were given the points only when all components of the target phrases were encoded. An omission of an article or a preposition would result in no points being scored. Transformation of the constituents that are fixed (e.g. replacing plural form with a singular form) was also treated as a wrong answer. No points, however, were deducted for wrong inflectional forms of the items that allow for modification.

Some sentences required learners to use certain verb tenses and verb forms. Mistakes with inflectional forms were treated as grammatical errors, rather than lexical. Therefore, if a student recorded all the parts of an idiomatic expression in the right order, even if the verb form was incorrect, the sentence was marked as correct.

Learning Style Questionnaire

As the study was also concerned with the effect that the learning style may have on the effectiveness of the two vocabulary treatments, the students' were given a VAK (visual, auditory, kinesthetic) test of learning styles (Chislet & Chapman, 2005) after the last idiom treatment session. The test consists of 30 multiple-choice questions. The students completed statements like "when I am learning a new skill, I am most comfortable: (a) watching what the teacher is doing; (b) talking through with the teacher exactly what I'm supposed to do; (c) giving it a try myself and work it out as I go." Based on their responses, the students were classified as visual, auditory, kinesthetic or mixed style learners. The participants were also asked which of the two learning conditions they preferred and their responses were then checked against the results of the VAK measure.

RESULTS

Following the postulates of dual coding theory, the study was designed on the assumption that presentation of the target idioms through verbal and non-verbal modes would enhance recognition and recall of the input. Visual images were used both to facilitate learning and prompt recall of the target expressions. The study compared two conditions: the effect of illustrations provided by the instructor and the effect of students' drawing their own pictorial representations of the target idioms. The results of the study are reported in the following order. First, the students' familiarity with the target expressions will be discussed. Then the students' performance on the tests of receptive idiom knowledge will be examined. Next, the scores on the productive tests will be reported. Following this, the

students' performance on the post-tests will be discussed. Finally, the results of the VAK test and the students' attitudes towards the two treatment conditions will be looked at.

Students' Familiarity with the Idiomatic Language Prior to the Vocabulary Treatment

None of the 53 participants in the study indicated familiarity with any of the target idioms. The students were familiar with most of the words within the target idiomatic phrases, but the following items had to be explained in class: *grapevine, axe, grind, cart, horns, haystack, palm* and *contention*.

Receptive knowledge tests

The scores on the receptive knowledge tests showed that, on average, the students recalled the meaning of 55%~60% of the target expressions. The students' performance was slightly better when verbal input was accompanied by the illustrations provided by the instructor.

The results of the test are presented in Table 1.

TABLE 1
Descriptive Statistics of the Receptive Idiom Knowledge Test (N=53)

Condition	Mean	SD
Illustrations provided by the instructor	9.01	2.85
Illustrations generated by the learners	8.28	3.28

A paired samples t-test was conducted to examine the statistical significance of differences in the mean scores. The results of the analysis did not indicate that the differences between the two conditions were statistically significant [$t(52)=1.38$, $p>.05$].

Productive knowledge tests

In both conditions, the overall scores on the productive knowledge test were lower than on the tests of the receptive knowledge, which can be attributed to both the more difficult nature of the task and the strict grading criteria applied. The obtained mean values were slightly higher in the learner-generated drawing condition, where the students mastered on average 7.3 out of 15 target expressions. The results of the descriptive analysis are presented in Table 2.

TABLE 2
Descriptive Statistics of the Productive Idiom Knowledge Test (N=53)

Condition	Mean	SD
Illustrations provided by the instructor	6.88	3.85
Illustrations generated by the learners	7.30	3.41

The difference between the two conditions was not found to be statistically significant [t(52)=-.90, p>.05].

Post-test Results

The results of the post-tests indicated improvement in both testing conditions and on both, the receptive and the productive knowledge tests, suggesting a positive effect of the feedback on the treatment tests.

Post-tests of receptive idiom knowledge

A comparison of the students' scores on the receptive post-tests in the two conditions showed that students were more successful at recalling the meaning of the idioms that they illustrated themselves. They correctly identified the meaning of around 84% of the target idioms. In the picture-provided condition, the students were able to match the idiom with its definition correctly only around 76% of the times. The mean values and standard deviations are provided in the table below.

TABLE 3
Descriptive Statistics Of The Receptive Post-Tests (N=53)

Condition	Mean	SD
Illustrations provided by the instructor	11.36	3.03
Illustrations generated by the learners	12.62	2.83

A paired-sample t-test analysis showed that the difference between the two conditions was statistically significant at .05 level [$t(52)=2.63$, $p<.05$].

Post-Tests of Productive Idiom Knowledge

A comparison of the scores on the post-tests of productive idiom knowledge revealed that students were more likely to recall the correct form of the target idioms in the learner-generated drawing condition. The average number of correctly recalled idiom forms was almost 25% higher when the students drew the pictures themselves. Descriptive statistics of the productive post-test are presented in the table below.

TABLE 4
Descriptive Statistics of the Productive Post-Tests (N=53)

Condition	Mean	SD
Illustrations provided by the instructor	8.56	3.42
Illustrations generated by the learners	12.26	3.96

The difference between the two mean values was found to be statistically significant level [$t(52)=-10.293$ $p<.05$].

VAK Questionnaire

The learning style questionnaire showed that about a half of the participants (24 out of 53 students) in the study were visual learners. About one fifth of the participants were found to be kinesthetic learners, and nine students were identified as auditory types. Ten of the participants showed preference for more than one

modality. Four of these students were identified as visual-kinesthetic learners, four students were found to be visual-auditory learners and there were two students who had equal number of responses in the visual, auditory and kinesthetic categories. The results of the survey are summarized in Figure 1.
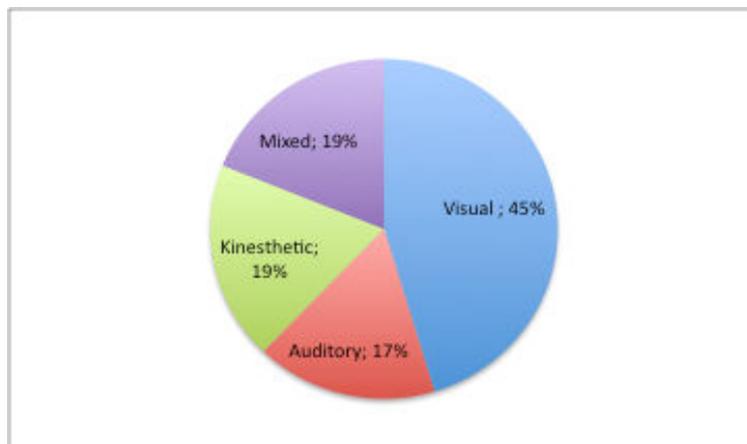

FIGURE 1
Students' Learning Styles by Raw Numbers and Percentages (N=53)

With regard to the question whether they preferred pictures to be provided by the teacher or self-generated, 37 students (69.8%) preferred to have images presented to them rather than to draw them themselves, while 16 students (30.1%) preferred to generate their own drawings of the target expressions. Students' preferences in relation to their learning styles are presented in Table 5.

TABLE 5
Students' Treatment Condition Preferences in Relation to Their Learning Styles

Learning style	Preference for teacher-provided illustrations	Preference for self-generated drawings
Visual	17 (70.8%)	7 (29.2%)
Auditory	8 (88.9%)	1 (11.1%)
Kinesthetic	5 (50%)	5 (50%)
VA	3 (75%)	1 (25%)
VK	4 (100%)	0 (0%)
VAK	0 (0%)	2 (100%)

As can be seen from the table above, about two-thirds of visual learners preferred pictures to be provided by the instructor. With the exception of one student, all auditory learners preferred to receive pictorial support from the teacher. Kinesthetic students were equally divided in their preferences for teacher-supplied pictures and self-generated drawings. The majority of visual-auditory learners preferred to receive illustrations from the instructor. The two students who had equal number of responses in the visual, auditory and kinesthetic categories displayed a preference for self-generated drawings.

The analysis of students' responses, however, did not indicate that students necessarily had the better score when visual aids were introduced in their preferred mode of presentation. When the students' performance on the two treatment tests and the two pos-tests was examined in detail, only ten students were found to have scored better in the condition they expressed the preference for. Six of them were visual learners, three were kinesthetic and one had been identified as an auditory style learner. While the six visual learners were equally divided in their preference for the type of treatment, the kinesthetic and auditory learners for whom the correspondence between the treatment preference and test results was observed all indicated that self-generated drawings were their preferred way of learning.

DISCUSSION AND CONCLUSIONS

The present study was an attempt to examine whether learner-generated illustrations of idiomatic phrases can facilitate the retention of meaning and form of L2 idioms, and possibly neutralize the distracting effect that teacher supplemented pictorials have on visual learners. While the relatively small scale of the experiment makes it difficult to make generalizations, the results of the study suggest that learner-generated drawings could be one effective strategy for helping learners remember the L2 idioms, and their form in particular. The study, however, failed to establish a clear correlation between the learning style preferences and the effect of different types of pictorial elucidation on student performance.

The first issue of concern that arouse from the analysis of data collected is the lack of familiarity the students had with idiomatic expressions. The target idioms in this experiment are all included in Collins Cobuild Idioms Workbook (Goodale, 1995) as expressions of high frequency in contemporary English. The students who participated in the experiment had received at least six years of formal English instruction. The fact that none of the participants was familiar with any of the target idioms highlights the problem of marginalization of the idiomatic language in the EFL materials and classroom instruction. As was discussed before, second language learners often experience difficulty with both the identification and comprehension of idiomatic phrases. Therefore, it is important to raise learners' awareness of the frequency of idiomatic usage in everyday language and comprehension problems it may cause. A more systematic, explicit classroom instruction of idiomatic language is needed and learners should also be taught the strategies that could help them understand and remember idiomatic phrases more easily.

The findings of the study also suggest that pictorial elucidation based on learner-generated drawings can promote acquisition of meaning and form of L2 idioms. During the vocabulary treatment, the students performed better on the test of productive idiom knowledge, and the scores on both the receptive and productive post-tests were higher when the students generated their own drawings for the target expressions than when visual support was provided by the instructor. The differences were particularly prominent on the post-test of productive idiom

knowledge. One possible explanation is that generation of pictures facilitates the building of referential connections between elements in verbal and visual representations. Drawings make lexical components of target expressions visual and explicit, making them easier to remember. The generation of pictures also draws learners' attention to the lexical make-up of the target phrases. When students are presented with the ready-made pictures, their initial reaction is to identify their contents. Although the assumption behind the dual presentation of the input is that the learners will associate the target language phrase with the picture, the possibility that some learners will identify the content of the picture in their native language cannot be excluded. Simply providing learners with L2 text and its illustrations does not guarantee that development of referential connections between the target phrases and their visual representations. Asking students to generate illustrations, however, stimulates their ability to notice the lexical composition of the target phrases, and eliminates or at least reduces students' reliance on their native language. Students are forced to analyze the input in greater detail, and the attention they pay to the input is believed to facilitate intake of the target language (Schmidt, 1994; 2001).

The strategy offers other potential advantages for the learners that should not be overlooked. First, student-generated pictures, however, have a clear pedagogical purpose. In many published teaching materials, pictures were found to have a purely decorative function (Mayer, Steinhoff, Bower & Mars, 1995). As a result, they sometimes have a distracting effect on the learner, impeding the learning process (Boers et al., 2009). Having the students illustrate the target phrases ensures that visual input really helps learners to contextualize the target language and that visual aids actually stimulate learning. Second, the fact that learners have generated the pictures themselves ensures that illustrations will not be culturally biased, which is also sometimes a problem with visual aids in published EFL teaching materials (Hewings, 1991). In addition, having the learners generate their own images for L2 idioms may not only be a useful strategy for promoting their retention, but also an effective way of prompting their recall. Illustrations help learners fit the target expressions in their own meaning structures. By referring to illustrations that they created themselves, learners may be more likely to remember the verbal input they

attended to and that may be one reason for the observed higher post-test scores. Finally, picture drawing as a strategy also has an affective value. The students generally seemed to enjoy the drawing activities. Their enthusiasm could be attributed to the novelty of the strategy and the fact that it did not require a particular training. Most students were able to produce quick and effective drawings from the first teaching session. A sample of student-generated drawings is available in Appendix 2.

In addition to benefits to the learners, picture-generation as a learning strategy seems to have potential benefits for the instructors as well. Visual support may facilitate learning, but it can be difficult and time-consuming for teachers to find pictures, illustrations and drawings that match the particular content, especially in the cases when figurative language is the focus of instruction. Having the students illustrate the verbal input can be an effective way of supplementing teaching materials and personalizing the learning process without placing extra burden on the instructors. Furthermore, learner-generated drawings give teachers an insight into problems that their learners may be having with the comprehension of the verbal input. Earlier experimental research (e.g. Linden & Wittrock, 1981; Greene, 1989) indicates a high correlation between the accuracy of pictorial representations and the level of input recall, which was taken as evidence that constructing accurate external representations facilitates development of accurate internal representations. Drawing construction as a learning strategy allows the instructor to verify students' understanding and identify possible misconceptions. For example, for the idiom '*a feather in a cap',* one student made the following picture. The drawing clearly indicates the confusion of word forms (*cup vs. cap)*.

There were also cases where learners failed to include the key-content words in the pictures, which was usually reflected in the lower test scores. For example, as an illustration for the idiom '*bone of contention*,' one student provided the following drawing:
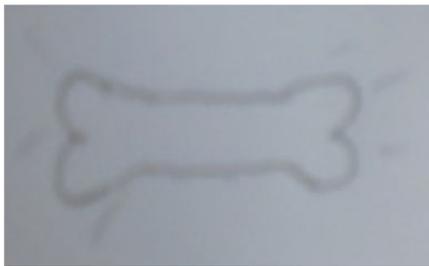
The student failed to score any points for this idiom on either the treatment test or the posts. On the other hand, a student who tried to 'visualize' not only the *bone* but also *contention* was able to correctly recall the meaning and the form of the target idiom.

Omission of visual representations for the key content words can serve as an indicator to the teacher that more structural elaboration may be needed and allow them to provide timely intervention.

One of the assumptions of this study was that the use of the strategies that are

compatible with the students' learning styles would help them learn vocabulary more easily and more efficiently. The hypothesis of the study was that learners who are high-imagers would do better when they create their own images, while learners who show preference for verbal explanations would have better results when visual support is provided by the teacher. The majority of the participants in this study were found to be visual learners and as predicted, they scored higher when they were prompted to generate the pictures themselves. The prediction, however, did not prove to be correct for auditory learners who also had better results overall when they were generating the pictures for the target idioms. There are several possible explanations for these findings. As Stahl (2002) points out, the current tests of learning styles have a reliability coefficient of only .60 ~.70, which means that their results must be interpreted with caution. The results of some studies (e.g. Coffield, Moseley, Hall & Ecclestone, 2004) also question the consistency of visual, auditory and kinesthetic preferences. Finally, it is possible that the nature of the task may have a bigger impact on the test performance than the learning style preferences. Generation of pictures engages learners in deeper language processing, which leads to the formation of stronger, long-lasting form-meaning connections.

Although the study failed to establish a clear correlation between students' learning styles, their strategy preference and test performance, the results obtained do suggest that learner-generated drawings could be an effective way of personalizing language instruction. As Ellis (1994) points out, effective strategy use may consist of the flexible deployment of the right strategies. The mode in which information is presented has an effect on learners' perceptions, their level of noticing, intake and consolidation of the target language. Understanding how learners acquire new information and process it in their brain is of primary importance for foreign language instruction, curriculum design and development of optimally effective learning tasks. Insufficient data from experimental research in this area, however, make it difficult for instructors to determine when particular strategies should be used and for what purpose and what combination of strategies is likely to produce the best outcomes. In these circumstances, personalization of instruction may mean that teachers do less for the students and focus on creating conditions where students can do more for themselves. Students should be made

aware of variety and versatility of learning styles and helped to realize where their strengths might be. They should be encouraged to experiment with different approaches and select the ones that suit them most. In this way it will be possible to accommodate a range of learning styles in the classroom and ensure that the learners are engaged in activities that are most beneficial to their learning. Allowing students a choice in strategy use is also likely to promote self-monitoring and evaluation of strategy use.

Making illustrations is one strategy that instructors may want to make their learners aware of as one possible way of remembering fixed word combinations in the idiomatic language. Teachers, however, should be careful never to impose a particular strategy on their learners. For successful implementation of any learning strategy, learners' attitudes must be taken into consideration. For a considerable number of participants in this study, for example, the preferred treatment condition was not necessarily the one in which they had the best results. These results seem to be in line with Richardson's (1978) findings that coding efficiency (i.e. processing ability) does not always match coding preference (i.e. preference for utilizing particular strategies). Richardson contends that coding efficiency and coding preference are two facets of information processing that are independent of each other. While teachers may be tempted to select the strategies with the highest coding efficiency, students' preferences regarding the teaching methods should not be overlooked. Learners often have strong beliefs about the nature of language learning and the effectiveness of particular learning strategies (Ellis, 1994). Therefore, what teachers should do is help learners identify the strengths they may not be aware of, encourage them to experiment with different approaches and make them more open to the idea of possibly modifying their current learning strategies. For example, the teachers may point out to learners that their test scores seem to be higher when they illustrate the target idioms themselves than when they just refer to the ones provided by the teacher, and then have a jargon-free discussion about the possible reasons for that. Students should be helped to realize that there are more options to consider, and that illustrating the target idioms may be one of them. However, the final decision about which strategy will be used from the battery of alternatives available should be left to the learner.

The results of the study also provide some directions for future research. Due to the curricular constraints, in the current study the post-tests were distributed only once, one week after each treatment session. By adding a delayed post-test, the study could be expanded to compare the long-term effect of the two types of treatment on acquisition of idiomatic language.

Furthermore, the present study is an example of vocabulary teaching with the focus on forms. The target idioms were de-contextualized and presented as discrete lexical structures. For the purpose of vocabulary learning this may be an effective approach. However, the limited time that learners have at their disposal and the small number of hours that can be devoted to explicit vocabulary instruction in class are strong arguments for integration of vocabulary instruction with other aspect of language learning. Further studies are needed to explore how instruction of idiomatic language could be integrated in more communicative and more authentic language tasks, and how learning activities can be modified to push the learners to use the target phrases while retaining their communicative function.

It is hoped that the results of this study offer some new guidelines to material writers and language instructors in their attempt to design and implement more systematic and yet more personalized instruction and that the findings will also encourage further research in teaching idiomatic expressions to second language learners.

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APPENDIX 1
Target Idioms

Picture-provided condition
ring a bell
cook the books
let off some steam
flash in the pan
start the ball rolling
play it by ear
put one's finger on something
have an axe to grind
hear something through the grapevine
burn the candle at both ends
put one's cards on the table
take the bull by the horns
let the cat out of the bag
look for a needle in a haystack
you scratch my back, I'll scratch yours

Learner-generated drawing condition
tighten one's belt
bone of contention
skate on thin ice
step on someone's toes
race against the clock
pull one's socks up
stab somebody in the back
have egg on one's face
feather in one's cap
put the cart before the horse
open up a can of worms
put one's foot in one's mouth
leave a bad taste in one's mouth
bang one's head against a brick wall
have someone in the palm of one's hand

APPENDIX 2
Samples of Student-Generated Drawings

to tighten one's belt

to have egg on one's face

to open up a can of worms

to step on someone's toes